

Issue Paper  
PCB Criteria in the Delaware River  
September 2005

**Purpose:** To provide a brief history on the development of revised PCB criteria and Total Maximum Daily Loads (TMDLs) for the Delaware River, and provide the possible outcomes of the various PCB criteria scenarios for the river.

**Background:**

- The Delaware River, Zones 2 through 5, is on the 303(d) lists for Pennsylvania, Delaware and New Jersey for PCBs based upon failure to attain one of the estuary's primary designated uses – that of fishable waters and the inherent protection of human health from consumption of unsafe fish. The Phase 1 TMDL was established in December 2003.
- The Delaware Bay, Zone 6, is on the 303(d) lists for Delaware and New Jersey for PCBs for the same reason as stated above. According to the Consent Decree, the TMDL needs to be in place by December 2006.
- Through their water quality standards regulations, Delaware and New Jersey defer to DRBC's criteria, if available, as the criteria that would prevail in the mainstem Delaware River and Delaware Bay. Pennsylvania applies the more stringent of the State/DRBC criteria.
- When establishing the Zones 2 through 5 TMDL, DRBC's zone-specific human health-based water quality criteria for total PCBs were used. As a result of DRBC's criteria of 0.0000079 µg/l in the lower portion of Zone 5, the TMDL required much larger reductions in the upper zones.

PCB Criteria in the Delaware River (µg/l)

	Zones 2 through Upper Zone 5	Lower Zone 5	Zone 6
DRBC (current)	0.000044	0.0000079	N/A
DRBC (developed, not proposed)	0.000016	0.000016	0.000016
Delaware	0.000064	0.000064	0.000064
New Jersey	0.00017	0.00017	0.00017
New Jersey wildlife criteria (not adopted or promulgated)	0.000072	0.000072	0.000072
Pennsylvania	0.000044	N/A	N/A

\*EPA's current 304(a) recommendation for the protection of human health from PCBs is 0.000064 µg/l

- While DRBC was preparing the Zones 2 through 5 TMDL, DRBC's Toxics Advisory Committee (TAC) was developing a revised human health-based PCB criteria for the Delaware River and Bay. The new criteria (16 pg/l) would incorporate EPA's 2000 human health criteria methodology, new fish consumption rates, and updated cancer potency factors. Most significantly, it would include the use of a Bioaccumulation Factor (BAF) specific to the Delaware River. It should be noted that during this time period the State of New Jersey, EPA Region 2, and the USFWS jointly developed a PCB criterion of 0.000072 µg/l for the protection of wildlife in response to a USFWS biological opinion, which must be adopted by New Jersey.
- In 2003, the TAC went to the DRBC Commissioners with some preliminary results from the criteria development. At the time, the Commissioners seemed receptive to a new, Delaware River-specific, criteria, and only questioned the risk factor (10-5 vs. 10-6). It was understood by the TAC that once the criteria was fine-tuned, it would be public noticed, and that DRBC would seek public comment as to which risk factor would be used.

## **Options and Possible Implications**

### **Option 1: Do nothing**

- Zone 6 TMDL allocations would be based upon DRBC's 7.9 pg/l PCB criteria for the lower Zone 5, as there are tidal influences from Zone 6.

Option 2: DRBC removes its Zone 5 criteria, and Delaware's criteria becomes the applicable criteria for Zones 5 and 6, on which to base the Zone 6 TMDL.

- This action would require public notice and comment by DRBC.
  - During the public comment period, DRBC is likely to receive a request from industry for some type of relief from the criteria. For example, a variance provision
  - Likely to be opposed by environmental representatives.
  - Once removal is finalized, Zone 6 TMDL allocations would be based upon Delaware's statewide 64 pg/l PCB criteria
- \*\* Note that if wildlife criteria in New Jersey is finalized, in the case of option 2, the wildlife criteria would drive the TMDL allocations. Although it appears to be less stringent than Delaware's PCB criteria, wildlife criteria is applied at a 90-day, 10 year flow (human health criteria is applied at harmonic mean flow) making its application more stringent.

Option 3: New, site-specific PCB criteria is put in place

- This action would require public notice and comment by DRBC.
- During the public comment period, DRBC is likely to receive a request from industry for some type of relief from the criteria, like a variance provision
- Once the new criteria are removal is finalized, Zone 6 TMDL allocations would be based upon DRBC's 16 pg/l PCB criteria

**Recommended Action:**

- EPA Regions 2 and 3 and the Fish and Wildlife Service would like to speak with the Federal Representative to the Commission to discuss the various PCB criteria options and resulting scenarios. We would also be interested in any insight that could be provided as to Commissioners discussions regarding the revised PCB criteria. Preferably, this conversation should take place before the next Commissioners' Meeting on September 26, 2005.